

PSTAT 5A: Understanding Data

Summer 2025 Course Syllabus

Instructor: Narjes Mathlouthi

Course Information

Lecture Time:	MWTR 8:00 AM – 9:30 AM
Lecture Hall:	HSSB 1173
Sections:	As scheduled on GOLD
Instructor:	Narjes Mathlouthi
Email:	nmathlouthi@ucsb.edu
Office:	Ellison Hall 5829
Office Hours:	Thursdays 11:00 – 12:00 AM (via Zoom or by appointment)
Note:	Zoom links are posted on the Canvas page for the class.

Teaching Assistants

- Summer Lee (sle@ucsb.edu)
- Mingzhu He (mingzhuhe@ucsb.edu)

Note: Include “[PSTAT 5A]” in your email subject. Allow 24–48 hours for responses. Avoid emailing over weekends if possible.

Course Description

This introductory course covers the foundations of statistical thinking, including data description, probability, and inference. Students will learn how to summarize data, compute basic probabilities, and make informed decisions using statistical tools.

Student Learning Objectives

By the end of this course, students will be able to:

- Summarize data using descriptive statistics
- Understand fundamental probability rules and distributions
- Conduct basic inferential procedures (confidence intervals, hypothesis tests)
- Interpret results and communicate findings

Course Materials

- All lecture notes, labs, worksheets are available on the course website
- Access to Canvas for course announcements, Zoom links, and grades.
- Scientific calculator for in-class and quiz calculations.
- Access to a computer (laptop loans available via UCSB Basic Needs).
- Labs will be conducted in Python on our JupyterHub instance: <https://pstat5a.lsit.ucsb.edu/hub/login>.
- **Optional but recommended:**
 - **OpenIntro Statistics** by Diez, Barr, and Çetinkaya-Rundel (freely available online at OpenIntro Statistics)
 - *Think Stats: Exploratory Data Analysis in Python* by Allen B. Downey (freely available online at Think Stats)

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Class Schedule

Week	Date	Topic	Lab/Quiz	Worksheet
Week 1	6/23	Introduction	Lab 1	Worksheet 1
	6/24	No Class - (Lecture Canceled)		
	6/25	Descriptive Statistics I		
	6/26	Descriptive Statistics II		
Week 2	6/30	Descriptive Statistics II	Lab 2	Worksheet 2
	7/01	Intro to Probability		
	7/02	Intro to Probability (Continued)		
	7/03	Conditional Probability, Independence, & Bayes Theorem		
Week 3	7/07	Introduction to Counting & Permutations	Lab 3	Worksheet 3
	7/08	Introduction to Counting & Combinations		
	7/09	Random Variables		
	7/11	Quiz 1 (Weeks 1–2)		
Week 4	7/14	Hypothesis Testing I	Lab 4	Worksheet 4
	7/15	Hypothesis Testing II		
	7/16	Two-Sample t-Tests		
	7/17	Two-Sample t-Tests Continued		
Week 5	7/21	ANOVA	Lab 5	Worksheet 5
	7/22	Intro to Statistical Modeling		
	7/23	Intro to Statistical Modeling & Correlation		
	7/24	TBD		

Week 6	7/25	Quiz 2 (Weeks 3–4)	Lab 6	Worksheet 6
	7/28	Regression Analysis		
	7/29	Regression Diagnostics, Sampling		
	7/30	Wrap-Up		
	7/31	Quiz 3 (Weeks 5–6)		

Note: This schedule is tentative and subject to change.

Grading

Grade Breakdown:

- Lecture attendance: 5%
- Section attendance: 5%
- Quiz 1: 30%
- Quiz 2: 30%
- Quiz 3: 30%

Grading Scale:

A+ 97–100	A 93–96	A– 90–92
B+ 87–89	B 83–86	B– 80–82
C+ 77–79	C 73–76	C– 70–72
D+ 67–69	D 60–66	F < 60

Grades are rounded to the nearest whole number (e.g., 89.7 rounds to 90).

Attendance and Absences

- You are allowed *one* missed lecture and *one* missed section without penalty, no email or documentation required.
- Any further absences will require a brief email notification to the instructor and assigned section TA within one week of the missed class.
- Excused absences for emergencies or university-authorized events should also be communicated by email as soon as possible.

Quizzes

- **Quiz 1:** Covers Weeks 1–2 (7/11)
- **Quiz 2:** Covers Weeks 3–4 (7/25)
- **Quiz 3:** Covers Weeks 5–6 (7/31)

Format: Multiple choice and short answer (open book)

Platform: Canvas /-or Gradescope

Availability: Friday 7 AM – 12:00 AM (1-hour time limit)

Make-up Policy

- *Eligible Reasons:* Emergencies or approved UCSB events.
- *Notification Deadline:* Email the instructor within 48 hours of the missed quiz.
- *Documentation:* Submit supporting documentation (e.g., doctor's note) as soon as possible.
- *Scheduling:* Make-up quizzes will be arranged within one week of the original date.
- *Unexcused Absences:* Quizzes missed without timely notification will receive a score of zero.

How to Succeed

- Attend and participate in all lectures and sections
- Engage with the material actively; ask questions
- Visit office hours for help and guidance
- Communicate openly and respectfully

Classroom Expectations

Respect your classmates and TAs. If you are struggling, please let us know; support is available. Engage respectfully and avoid non-course activities during class.

Communication Guidelines

- Use UCSB email and include a relevant subject
- Allow 24–48 hours for replies
- Use office hours or request an appointment if needed
- Give constructive feedback and engage respectfully with peers

Academic Integrity

Do your own work. Cite sources properly. Plagiarism or cheating will result in disciplinary action. For guidance, visit:

- <https://studentconduct.sa.ucsb.edu/academic-integrity>
- <https://www.sa.ucsb.edu/regulations/student-conduct-code/student-conduct-code>

Student Resources

DSP and Accommodations

Request accommodations via <http://dsp.sa.ucsb.edu> or call (805) 893-2668. Submit requests early.

Other Student Services

- CLAS
- Student Health
- Basic Needs
- CAPS
- Equal Opportunity Program
- ONDAS First-Gen Support
- Undocumented Student Services
- Transfer Student Center

Important Dates

Add w/o Code:	June 29
Drop w/ Refund:	June 29
Add w/ Code:	July 3
Drop Course:	July 9
Change Grade Option:	August 1